

Appl. No. 10/784,448
Amdt. dated July 8, 2005
Reply to Office Action of April 8, 2005

Remarks

The present amendment responds to the Official Action dated April 8, 2005. The Official Action rejected claims 1-9 under 35 U.S.C. 102(e) based on Acosta U.S. Patent No. 6,783,072 ("Acosta"). These grounds of rejection are addressed below in the order in which they were discussed in the Official Action, following a brief discussion of the present invention to provide context. Claims 1, 3, 5, 7 and 9 have been amended to be more clear and distinct. Claims 1-9 are presently pending.

The Present Invention

A checkout device according to one aspect of the present invention includes a bar code scanner for generating scan patterns. The bar code scanner also detects and decodes light generated from reflection of the scan patterns from bar codes. The checkout device may include an electronic article surveillance (EAS) system for deactivating security labels, with the EAS system preferably being positioned so as to deactivate a security label during scanning of an article bearing a security label. The scanner includes optical components such as a rotating reflective spinner and one or more sets of pattern mirrors for generating scanning light beams to create scan patterns. The scanner also includes an optical element for refracting scanning light beams striking the optical element, with the optical element being constructed and disposed so that a scan pattern traced out by the scanning light beams is displaced from a scan pattern that would be traced out in the absence of the optical element. The optical element may be chosen and placed so that the scan pattern is shifted to an effective location above the aperture of the

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scanner and may be chosen and placed to compensate for displacement of optical components required for accommodation of an EAS.

The Art Rejections

The art rejections hinge on the application of Acosta, standing alone. As addressed in greater detail below, the cited reference does not support the Official Action's reading of it and the rejections based thereupon should be reconsidered and withdrawn. Further, the Applicant does not acquiesce in the analysis of the cited reference made by the Official Action and respectfully traverses the Official Action's analysis underlying its rejections.

The Official Action rejected claims 1-9 under 35 U.S.C. 102(e) as anticipated by Acosta. In light of the present amendment to claim 5, this ground of rejection is respectfully traversed.

Claim 1, as amended, claims an optical element in a bar code reader for shifting scanning light beams to an effective location above an aperture. The optical element is constructed and disposed so as to refract the scanning light beams reflected from pattern mirrors in the bar code reader such that the scanning light beams trace out a scan pattern displaced from the scan pattern that would be traced out by the scanning light beams in the absence of the optical element. These limitations in the claimed combination are not taught or made obvious by Acosta.

Acosta teaches a combined data reader and EAS system, with the data reader comprising various elements for forming and directing scan patterns and with an EAS deactivation module accommodated inside the data reader. Acosta does not teach an optical element for refracting scanning light beams reflected from pattern mirrors so as to cause displacement of a scan pattern from one that would be traced out in the absence of the optical element. Inclusion of an optical

Appl. No. 10/784,448
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element for refracting scanning light beams to achieve displacement of a scan pattern, as claimed by claim 1, as amended, provides a simple and convenient solution for directing a scan pattern to a desired location while accommodating an existing or desired disposition of optical components within a scanner. For example, inclusion of an EAS system in a scanner may require a particular configuration of optical components such as a spinner and one or more sets of pattern mirrors. Proper design and disposition of an optical element, as claimed by claim 1, as amended, allows for positioning of a scan pattern that might otherwise be difficult given demands that must be accommodated for placement of optical components inside a scanner. Claim 1, as amended, therefore defines over the cited art and should be allowed.

Claim 9, as amended, claims directing a laser beam at a plurality of pattern mirrors for generating scanning light beams and refracting the scanning light beams such that the scanning light beams trace out a scan pattern displaced from the scan pattern that would be traced out by the scanning light beams in the absence of the refraction, refraction being performed so as to shift the scanning light beams to an effective location above the aperture for reading a bar code label on an item.

As noted above with respect to claim 1, Acosta does not teach or make obvious refracting scanning light beams generated by directing a laser beam at pattern mirrors, such that the scanning light beams trace out a scan pattern displaced from the scan pattern that would be traced out by the scanning light beams in the absence of the refraction. Claim 9, as amended, therefore defines over the cited art and should be allowed.

Appl. No. 10/784,448
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Claim 3, as amended, claims a bar code reader including a plurality of pattern mirrors for producing a scan pattern of scanning light beams and a housing having an aperture for emitting the scanning light beams and an optical element in the path of the scanning light beams for shifting the scan pattern to an effective location above the aperture. The optical element is constructed and disposed so as to refract the scanning light beams reflected from the pattern mirrors in the bar code reader such that the scanning light beams trace out a scan pattern displaced from the scan pattern that would be traced out by the scanning light beams in the absence of the optical element.

As noted above with respect to claim 1, Acosta does not teach or make obvious an optical element refracting scanning light beams reflected from pattern mirrors such that the scanning light beams trace out a scan pattern displaced from the scan pattern that would be traced out by the scanning light beams in the absence of the optical element. Claim 3, as amended, therefore defines over the cited art and should be allowed.

Claim 5, as amended, claims a bar code reader including a plurality of pattern mirrors for producing a scan pattern of scanning light beams and a housing having an aperture for emitting the scanning light beams. The pattern mirrors are designed to be placed in an original position located at a first distance away from the aperture and produce a first pattern, but have instead been relocated to be at a second distance away from the aperture in order to accommodate installation of a security system in a housing of the bar code reader. The relocation of the pattern mirrors causes them to produce a second pattern displaced from the scan pattern that would be produced if the pattern mirrors were deployed in their original position. Claim 5 further claims

Appl. No. 10/784,448
Amdt. dated July 8, 2005
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an optical element in the path of the scanning light beams for shifting the second pattern to produce a third pattern. The optical element is constructed and disposed so as to refract the scanning light beams reflected from the pattern mirrors in the bar code reader such that the scanning light beams trace out a scan pattern displaced from the scan pattern that would be traced out by the scanning light beams in the absence of the optical element, the displacement being such that the scan pattern that is traced out is in substantially the same position as a scan pattern that would be produced with the pattern mirrors in their original position and in the absence of the optical element.

As noted above with respect to claim 1, Acosta does not teach or make obvious an optical element refracting scanning light beams reflected from pattern mirrors such that the scanning light beams trace out a scan pattern displaced from the scan pattern that would be traced out by the scanning light beams in the absence of the optical element. In addition, the use of an optical element as claimed by claim 5 provides a simple way to alter a bar code reader or scanner, for example as part of a retrofit, but to achieve the same performance originally achieved by the reader or scanner before the alteration. Claim 5, as amended, therefore defines over the cited art and should be allowed.

Claim 7, as amended, claims a bar code reader including pattern mirrors for producing a scan pattern of scanning light beams. Claim 7 further claims an optical element in the path of scanning light beams for shifting the scanning light beams. The optical element is constructed and disposed so as to refract the scanning light beams reflected from the pattern mirrors in the bar code reader such that the scanning light beams trace out a scan pattern displaced from the

Appl. No. 10/784,448
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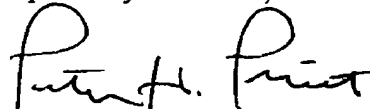
scan pattern that would be traced out by the scanning light beams in the absence of the optical element.

As noted above with respect to claim 1, Acosta does not teach or make obvious an optical element refracting scanning light beams reflected from pattern mirrors such that the scanning light beams trace out a scan pattern displaced from the scan pattern that would be traced out by the scanning light beams in the absence of the optical element. Claim 7, as amended, therefore defines over the cited art and should be allowed.

Conclusion

All of the presently pending claims, as amended, appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,



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